

Inventory of Efficiency Measures Implemented	Description	Cost Savings 2010-2012	Potential Cost Savings	Period
PUBLIC WORKS				
Grants	Aggressively pursued and obtained Federal Transportation Grants for maintenance and replacement of Arterial/major roadways	\$2,174,000	\$5,348,000	FY 2013
Energy Efficiency/Solar Grants	Energy Efficiency Grant - \$232,046.00 w/ potential of \$202,906.02 in additional funds that are pending Solar Grant - \$661,500 w/ potential of \$169,125.00 in additional funds that are pending	\$994,000	\$373,000	FY 2013
Urban Forestry Grants	\$100,000 from Ameren Net Metering Program Have been awarded a Tree Resource Improvement & Maintenance (TRIM) Grants in 2012 for \$10,000. These grants are matching fund grants from the Missouri Department of Conservation and targeted for the upgrade to both the Public Works and Parks Tree Inventories	\$0	\$10,000	FY 2013
Hazard Mitigation Grant & MSD Local Match (Haddington Ct Flood Buyout)		\$6,276,000	\$0	
Created pavement management program that maximizes pavement life and minimizes life-cycle cost.	Based upon data from APWA and our estimates, our proactive pavement management program costs \$40/SY every 20 years, as opposed to reconstruction, which would cost \$95/SY. Annualized over 20 years, that's a savings of \$55/20=\$2.75/SY. The city has 695,000 SY of pavement, so that's an annual savings of \$1,911,250 as compared to a replacement-only approach.	\$5,733,750	\$1,911,250	Annually
Proposed a second intern to accomplish work that would otherwise need to be contracted-out.	Assuming 560 hours for summer (14 weeks, 40 hrs/wk) and difference in hourly rate of \$90/hr (\$100 for consultant - \$11 for intern)	\$50,000	\$50,000	Annually
Began using a protective sleeve on parking meter posts to minimize painting.	Average cost for labor and material to sand, prime and paint a single parking meter post is \$20.00 annually. Average cost to install the black vinyl protective sleeve on a single parking meter post is \$24.75. The manufacturer's recommended minimum life cycle of the black vinyl protective sleeve is 10 years. This represents a cost savings of approximately \$1,975 per meter over the 10 year life cycle. ASSUMED 300 METER POSTS COMPLETED TODATE AND 600 METER POSTS LEFT. SAVINGS CALC ((((\$20/YR X 10YR) - \$24.75)/10YR) X # OF POSTS = ANNUAL SAVINGS	\$6,000	\$16,000	Annually (after all 900 posts are converted)
Installed Parkeon parking meter units to reduce the number of parking meters requiring collection and maintenance.	The 12 Parkeon "on-street" - pay-in-display units replaced 87 individual parking meters. Average maintenance cost (labor, material and collection) for each individual parking meter is approximately \$43.75 which equates to \$68,625 annually. Average city staff maintenance cost (labor, material & collection) for each Parkeon unit is approximately \$1,025.00 which equates to \$12,300 annually. To include the monthly contract maintenance cost (technical support & wi-fi link) for each Parkeon unit is \$45 monthly which equates to \$6,480 and totals to be \$18,780 annually. CALC (\$68,625-\$12,300-\$18,780)	\$38,000	\$38,000	Annually (potential for increase if additional Parkeon installations are funded)

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Replaced Incandescent lamps with LED pedestrian signals to reduce electric usage, bulbs replacement and maintenance frequency.	In 2009, a project to replace all incandescent traffic signal heads in the 24 signalized intersections with LED retro-fit signal heads @ a materials cost of approximately \$35,000. City electrical staff did all replacements @ a labor cost of approximately \$8,5000. Energy savings on an average of 65% equates to approximately \$7,000 annually. Routine lamp replacement and signal head lens cleaning maintenance cost savings (labor & material only), equate to approximately \$12,500 annually. The pedestrian signal head replacement from incandescent to LED was Steve Meyer's project.	\$58,500	\$19,500	Annually
Converted from BrickPrint to paver crosswalks--lower life-cycle costs	Based upon the 2008 cost of \$124/SY for Brickprint, inflated at 3% annually, the 2012 cost would be \$140/SY. At a 10-year life, the annualized cost of Brickprint is \$14/SY. Brick pavers crosswalks cost \$245/SY in 2011, and inflated at 3% annually, the 2012 cost would be \$252/SY. At a 40-year life, the annualized cost of paver crosswalks is \$6.31/SY. This is an annual savings of \$7.69/SY. The city installed 5,883 SY of Brickprint crosswalks in 2008. In 2011, 1,034 SY were replaced with pavers.	\$7,951	\$45,240	Annually
Started installing TripStop, in sidewalk replacements near trees, to reduce frequency of sidewalk replacement due to tree roots push.	Tripstop has been installed for the past 3 years. Tripstop is installed in the sidewalk joints next to street trees to help bridge the gap created by roots raising the sidewalk resulting in trip hazards. Tree roots typically reduce the life cycle from 30 to 7 years. Trip Stop is anticipated to extend the life cycle to approximately 14 years. The current cost to replace a typical 5' by 10' section of sidewalk is \$306.50 (50 sf x \$6.13 = \$306.50). The cost of the Tripstop runs \$7.80 per lf making the cost to install a 5' section \$39.00. The potential savings per location installed could be \$267.50 (50 x \$6.13 -39.00).	\$0	\$10,700	Annually (based on 40 locations installed)
Completed energy audits on all city buildings	Possible savings calcs in KDG Energy Audit Study	Unknown	Unknown	
Implemented energy projects on new Police Station		Unknown	Unknown	
Proposed energy savings projects in CIP for City Hall and Maintenance Building	In 2011 received an Ameren Missouri Energy Conservation Grant to replace the existing Metal Halide (MH) lamps with high efficiency Ceramic Metal Halide (CMH) lamps without replacing the luminaire. The scope was to replace 54 lamps in the interior of the Municipal Garage. The total project cost for material and city staff labor was \$9,500. The Energy Grant reimbursement was 10% of the total cost of the project which equates to \$950. Energy savings with the high efficiency lamps is at a minimum of 40% which equates to approximately \$4,000 annually. Life cycle of the high efficiency lamp is 100% longer which is an additional savings on lamp replacement and routine maintenance.	\$4,950	\$4,000	Annually

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Studying at test locations for installing LEDs in a conference room or office and in a city parking lot.	City staff replaced existing incandescent and high pressure sodium (HPS) on 1 city owned parking lot (5 luminaires) and multiple subdivision entrance gates (9 luminaires) with LED luminaire retro-fit assemblies. The energy savings on these luminaires range from 50% to 60% and should have an energy cost savings of approximately \$400 to \$500 annually.	\$400	\$400	Annually
Roadway Lighting Upgrade on Maryland Ave	Maryland Avenue Street Lighting Upgrade Project. The scope is to install all overhead street lighting cable underground and replace all existing concrete street light poles and all High Pressure Sodium (HPS) luminaires with high efficiency Ceramic Metal Halide (CMH) luminaires from Forsyth Blvd. westward to west city limits. Energy savings at a minimum of 40% which equates to approximately \$3,000 annually and routine maintenance cost savings (labor & material only), at a minimum of 15% equates to approximately \$4,000 annually. This lighting project will comply with the Illuminating Engineering Society of North America (IESNA) minimum lighting requirements for roadway lighting and will be the standard for all additional arterial roadway lighting projects within the city limits.	\$0	\$4,000	Annually
Roadway Lighting Upgrade on Maryland Ave	In 2011 received a Manufacturer's Product Grant to purchase high efficiency luminaires and lamps. The one-time grant was "buy one get one free" on the luminaire and lamp assembly. As a test project for new color rendering and high efficiency roadway lighting, 4 new luminaire assemblies were purchased and 8 were installed in the Municipal Garage area. The cost for the 8 luminaire assemblies was \$2,500 and city staff labor to install was approximately \$500 which equates to a total cost of \$3,000. Energy savings which the high efficiency luminaire assemblies is at a minimum of 40% which equates to approximately \$800 annually and routine maintenance cost savings (labor & material only), at a minimum of 15% equates to approximately \$1,200 annually. These high efficiency luminaire assemblies performed above staff expectations and are the same luminaire assemblies that will be installed in part of the Maryland Avenue Street Lighting Upgrade Project this year.	\$1,200	\$1,200	Annually

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PLANNING AND DEVELOPMENT SERVICES				
Personnel	Senior Planner position replaced with Planner position (lower grade)	\$20,000	\$20,000	annually
Bike	Purchased bike for Planner site visits to reduce fuel costs	\$350	\$350	annually
Reduced educational attendance (minimum required to maintain certifications)		\$400	\$400	annually
Electronic publication	Use of e-subscribe to receive agendas, applications and correspondence (reduction in paper usage and staff time)	\$2,500	\$2,500	annually
Use of web site and email for permit applications		\$700	\$700	annually
Use of fax and credit cards for permit application submittal		\$1,550	\$1,550	annually
Use of wireless applications for field work for inspectors		\$6,500	\$6,500	annually
Re-routing of inspection staff to minimize vehicle miles and fuel usage		Unknown	Unknown	annually
Reduced energy usage through use of more efficient products such as batteries, equipment, etc		Unknown	Unknown	annually

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POLICE				
Position reduction	Eliminated three full time positions: Police Officer, Data Analyst, Parking Control.	\$453,000	\$151,000	annually
Paperless tickets	Instituted Paperless Ticketing which increases the efficiency of TVB as they no longer have to enter tickets by hand and they have access to time immediately after they are issued.			
Extended Vehicle Replacement	Extended the years to usage for Police Department vehicles. Marked cars are now kept three years instead of two and unmarked vehicles are kept for six years instead of five.			
Drug Forfeiture Funds	The Police Department has purchased new equipment costing over \$250,000 using drug forfeiture funds instead of city funds. These include new weapons; lights and sirens; an automated license plate reader which has increased our ability to locate vehicles with large amounts of unpaid parking tickets: and additional training seminars for employees.	\$250,000		
School Resource Officer	In 2009 reached agreement with the School District that they would pay 75% of the cost of the Police Officers assigned as School Resource Officers. Prior to that, the City only received 50% of the cost.	\$117,996	\$39,332	annually

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PARKS AND RECREATION				
Recreation Staff Desk Coverage	Utilized full-time Recreation Staff to cover one shift (8 hours) each week in place of managers and/or shift supervisors at recreation facilities; this has decreased part-time salary costs. (Estimated savings of \$26,200 in personnel costs)	\$52,400	\$26,200	annually
Reduced Part-time hours	Reduction in staffing levels of part-time personnel where possible. (Savings of \$60,000)	\$60,000	\$60,000	annually
Part-time pay	No increase in part-time personnel in 2009 and 2011; in 2010 an average increase of 2.5% was included. (Helped keep part-time costs flat over the past three years)			
Contract Services	Conversion of some services to contractual (i.e. adult basketball leagues. (Savings of \$20,000 in personnel costs, reduction in revenue for programs of the same/resulted in net positive impact for gym rental revenue of \$20,000; overall a net positive on the budget of \$20,000)	\$20,000	\$20,000	annually
Special even staffing	Utilized part-time seasonals for overtime for events and weekend/holiday duty. (Saved \$3,000 per year)	\$3,000	\$3,000	annually
Center Reduced hours	Reduce Hours of Operations at the Center during the summer. (Saved \$7,000 this summer)	\$7,000	\$7,000	annually
Energy Efficiency Practices	Whenever possible, turn off lights, replace bulbs with high energy LED bulbs, turn off computers and screens whenever not in use; install motion sensors in restrooms and areas where usage is variable. (Hard to calculate savings, but have not seen increased expenditures as was anticipated)	unknown	unknown	annually
Native Plants	Reduce landscaped areas; replace high maintenance plants with native grasses and plantings. Estimate reduction of \$2,000 per year.	\$2,000	\$2,000	annually
Eliminate Paper Products	Replace paper products in break room with reusable product. (estimate savings of \$300).	\$300	\$300	annually
Reduced Office Supplies	Reduced office supply usage; cut by 10%; with reliance on less printing, two sided copies, scanning of documents, etc., saw reduction in the money spent on paper. (Savings of \$1,000 per year).	\$1,000	\$1,000	annually
Supply Account Reduction	Reduced all supply accounts by 2 – 10%; in some cases this meant stretching the life of the equipment further with an eye on functionality and appearance. (Savings of \$2,500 per year).	\$2,500	\$2,500	annually
Printing	Printed fewer brochures due to more reliance on on-line registration and web site. (Savings of \$4,000 per year)	\$4,000	\$4,000	annually
<i>These additional items were also revenue generation:</i>				
Shelter Rental	Opened rental of park shelters to non-residents. (Additional revenue of \$3,000 per year)	\$3,000	\$3,000	annually

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Increased Rental	Aggressively market facilities for sports tournaments; these large block rental generate the best revenue and normally call for only one set up. (Additional revenue of nearly \$8,000 at the Center).	\$8,000	\$8,000	annually
Increased Field Rental	Aggressively market outdoor fields and volleyball courts on days that we do not program. (Additional revenue of \$5,000 in FY2011)	\$5,000	\$5,000	annually
Long term rentals	Attract long term rental customers to the Center of Clayton. (i.e. Weight Watchers; saw increase of \$10,000 in FY2011)	\$10,000	\$10,000	annually

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FINANCE AND ADMINISTRATION				
Post Jobs Electronically	The City began posting job openings on-line rather than use newspaper postings.	\$15,000	\$5,000	Annually
Mobile Ticketing	The Police Department implemented this process which saves court staff time from manually entering traffic tickets.	1500 Staff Hours	500 Hours	Annually
Pay Traffic Tickets On-Line	Providing customers the ability to pay traffic tickets on-line provides better customer service and saves staff time	900 Staff Hours	300 Hours	Annually
Provide On-Line Parking Ticket Appeal	Provides customers the ability to appeal parking tickets on-line by using a specific email address for appeals. This process saves customer trips to City Hall and saves staff time in response to visitors and phone calls.	180 Staff Hours	60 Hours	Annually
Improved Delinquent Ticket Process	Created additional reports that assist in generating more delinquent notices to vehicle owners and submit invoices electronically to bulk rate mail service. Saves postage of \$350 per year and saves staff time processing notices.	\$700 & 50 hours	\$350 & 25 hour	Annually
Positive Pay for Banking Accounts	Implemented a positive pay program which provides the bank City data on check payments processed. The bank then compares payments presented for payment on the City's bank accounts against the list of authorized payments. This process substantially reduces the ability for fraudulent checks to be cashed on City funds.	Unknown	Unknown	Annually
Server Virtualization Technology	Implemented this technology which reduces server space requirements, power and cooling requirements, enables faster implementations and improved disaster recovery capabilities.	\$75,000	\$25,000	Annually
Shared Network Printers	Replaced a large number of stand alone dedicated printers with shared network printers. Savings are in replacement cost, staff time and power consumption. Additional benefits include enhanced printing capabilities.	\$10,500	\$3,500	Annually
Outsourced CRSWC Credit Card Processing	Replaced the CRSWC credit card payment component with vendor hosted solution resulting in cost avoidance of internal credit card compliance system implementation.	\$150,000	\$25,000	Annually
Discontinued PC maintenance contract	Discontinued purchasing desktop computers with expensive maintenance contracts resulting in annual savings.	\$13,500	\$4,500	Annually
Restructured Administrative Services	Restructured staffing by reducing one position of Deputy City Manager and expanded the Finance Director position to Director of Finance and Administration.	\$125,000	\$125,000	Annually
Restructured Court Staffing	Restructured court staffing by reducing one full-time position and adding two part-time positions. The customer service counter is better able to handle coverage for lunch time and staff absence and has significant cost savings.	\$30,000	\$15,000	Annually
Report of High Outstanding Parking Tickets	Generated a monthly report detailing vehicles with over \$300 in outstanding parking fines. This report is disseminated to the police department and a substantial number of vehicles have been located and additional revenue has been received.	\$20,000	Unknown	Annually

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Rotate Court Staff for Evening Sessions	Implemented rotating court schedule to allow part-time staff to work during evening sessions of municipal court. This reduces staff costs due to part-time employees being paid straight time and full-time employees being paid overtime to work court evening sessions.	\$700	\$700	Annually
Financial System interface to CRSWC	Implemented a computerized interface between the Finance system and the Parks & Recreation system which posts transactions to the general ledger without staff needing to re-key the data saving staff time.	240 Hours	80 Hours	Annually
Utilize School District Print Shop	Staff now utilize the school district print shop for large print jobs.	\$8,000	\$4,000	Annually

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FIRE					
Cooperative Purchasing		Joint purchase of replacement firefighter breathing apparatus with Maplewood & Richmond Heights. Saved funds on total equipment purchase, saved funds on procurement process, one bid advertisement, one review by Finance of process (done by RH). Shared cost of training City staff on new units. Increased common operating ability between the Fire Departments and improved firefighter safety. Estimated on this one purchase we saved ~\$18,000.	\$18,000	UNKNOWN	ONE-TIME AND ON-GOING
Training		Provided training program that evaluated & focused on the needs of department. Out of town training requires members to return and give classes to department on what they learned. Estimated savings of \$10,000 per year in training budget and better trained staff.			
Vehicle Selection		Focused on right vehicle for mission, green vehicles, maintenance costs & resale. Vehicle specifications are done by joint committee with Fleet & fd users.			
Wireless Documentation		Improved EMS Billing & patient care documentation by adding wireless access to ambulances for entry of electronic patient records.			
Training		Shared local training classes & in-house instructors for required professional certification's. Estimated savings of \$15,000 per year in training & overtime budget needs and increase in-house training of staff for medical, rescue & fire certifications by all staff.	\$15,000	\$15,000	annual